THE AMERICAN JOURNAL OF

OPHTHALMOLOGY.

VOL. VII. JANUARY, 1890. No. 1.

OPTIC NEURITIS:[1] BASAL MENINGITIS AN OCCASIONAL SEQUENCE OF MEASLES.

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You are asked this evening to briefly consider a subject that can hardly be thought to savor too strongly of a specialty. Of the four cases to be described, three presented symptoms, more or less pronounced, of localized meningitis occurring after measles. It is a matter of keen regret that the clinical history is so unsatisfactory. Being derived wholly from the friends of the patients, it is naturally deficient in the valuable data that the attending physician only could give.

CASE I.—DOUBLE OPTIC NEURITIS, ENDING IN RECOVERY OF VISION.

May 9, 1882. Nelly S., æt. 9 years, a healthy child, three days previously returned from school at night, saying she could not see; headache. An older sister says the child sits as if dazed, disinclined to talk; sleeps much; no action of bowels for four days.

[1]Read before the Essex Southern District Medical Society, January 7, 1890.

Recognized a thumb from finger across the office. Looked down constantly, so examination was difficult. Pupil dilated; no strabismus; a color-blindness noticed at home; a marked double optic neuritis; no hæmorrhages. Ordered laxatives and *potass. iod.* (1. daily). Sixteen days later color-sense better; saw large letters ($^4/_{LX}$); œdema of discs about gone; retinal vessels tortuous; pupils smaller but inactive.

June 8. Read large type (Sn. 1.75); has slept so soundly nights as to make it far from easy to awaken her; inclined to play out of doors; good appetite and bowels no longer constipated. Optic discs indicated atrophy, so strychnine was prescribed. Improvement in sight soon followed, and after six weeks it was half of normal, and in September, four months after the neuritis, she read the finest print (Sn. .50 and $^4/_{VI}$), when all treatment was discontinued.

In September, 1889, vision was absolutely normal.

In this case, the mother of the child being dead, it was difficult to say whether measles had preceded the brain-trouble some years before. But the symptoms indicated that the double neuritis had a cerebral origin, and most likely it was due to a basal meningitis. It was most gratifying, after the lapse of seven years, to find the sight had become perfect, for it is well known that atrophy of the optic nerve is a frequent sequel of a preceding inflammation.

Case II.—Atrophy of Both Optic Nerves Following Measles.

September 6, 1887. Helen L., æt. 4 years (favor of Dr. Geo. H. Pillsbury, of Lowell); nervous prostration in the preceding spring, terminating in measles; high fever, but without delirium; sixth nerve paralyzed, so the right cornea converged so far as to be "out of sight." Her attending physician said "she had effusion of the brain;" co-existing darkness, but it disappeared; child complained then and since that objects seemed dark.

At time of examination there was a convergent squint of 2

mm. of the right eye. Counted fingers held near her face (0.20); marked atrophy of optic nerves. Prognosis unfavorable. Strychnine and the galvanic current were ordered.

In August, 1889, vision had improved slightly ($^{3}/_{LX}$ and she barely read capital letters of Sn. 2 at 0.10). Normal action of right externus. Health excellent and is anxious to attend school.

CASE III. DOUBLE OPTIC NEURITIS: SUBSEQUENT ATROPHY.

January 21, 1889. Edith E., æt. 5 years; a robust child; no family history of either syphilis or tuberculosis; measles last month, but slightly ill, no delirium, and played around as usual. Sixteen days ago it was noticed that the right eye "turned in." Child had been in bed two weeks. Disinclined to play, drowsy by day and restless by night. No pain referred to head; has vomited once or twice; urinates once during the night; quantity passed daily apparently normal. Result of analysis negative. Bowels constipated; prickling sensation in eyes; pupils dilated and inactive; counts fingers best with right eye on looking down; child fretful and inclined to sit in mother's arms with eyes closed, so the mirror was not readily used.

However, the appearance of the fundus of both eyes was striking, consisting of an intense neuro-retinitis, the papillæ being much swollen and hiding the retinal vessels, and with numerous hæmorrhages, especially in the right retina.

The picture resembled closely what is seen in nephritic-retinitis, but in the absence of albuminuria it seemed to be due to a cerebral growth, though no headache had been complained of. *Sod. iod.* (1.0 daily) was prescribed with laxatives. No change having occurred after twenty days, save the child "seemed brighter and more like herself than for two months," the parents were advised to consult Dr. J. J. Putnam.

In a note, dated February 14, Dr. Putnam ascribes the neuritis to meningitis following measles, and he kindly recalled the cases reported by Dr. O. F. Wadsworth, in the *Bost. Med. and Surg. Jour.*, December 30, 1880. He advised ncreased doses of the iodide; the prognosis "very bad."

In April, the œdema had gone, as well as the hæmorrhages. Discs pale and retinal vessels fine; fundus of both eyes studded with glistening dots singly and in groups; child less irritable, plays in open air all the day, sleeps well, and bowels act regularly; pupils contract in sunlight. Strychnia was substituted for the sodic iodide, and, later, the primary current was used. In August, when last seen, the ophthalmoscopic appearance was unchanged. Vision amounted to the counting of fingers, the recognition of a key, pencil, etc., at ten centimetres. Examination of color-sense futile.

Case IV.—Retro-Ocular Neuritis (?) Terminating Favorably.

April 10, 1889. Miss V., æt. 14 years (referred by Dr. Edward Neuhall, of Lynn); is tall for her age, having grown rapidly of late. Measles five weeks previously; was stupid, but not delirious; went home from school, feeling dizzy and complained of pain in her head; vomited several times; pupils dilated after the second week; "green and red blindness" was noticed; pulse 40 at one time, but it rose in frequency under treatment; catamenia had appeared six months before and were present when illness began; retention of urine, so a catheter was employed; was nervous and querulous, less so now; unable to read the largest test-letters ($^5/_{LX}$ Sn.) at five metres; no glass helped vision. Several tests for malingering were used, but the loss of sight was found to be real. Pupils still dilated; no history of strabismus. The ophthalmoscope revealed normal discs; visual field not affected; not much dread of light. A lotion of muriate of pilocarpine was ordered, and iodide of soda internally.

May 31. Vision materially better; pupils act (dilate to 8 mm. and contract to 5 mm.). Pilocarpine last used four days ago. Not "come round" yet.

October 19, sight nearly normal; right eye, $-^5/_V$, and left good; left, $^5/_{XII}$. Atrophy of outer half of right optic disc; is feeling well and has resumed the use of her eyes. The gain in sight

is worthy of note, though, so far it is less marked than in the case first cited.

About two months ago (since these notes were collected) a child, æt. 2 years, was brought to me because of poor sight since attack of measles. It held its toys close to its eyes, and evidently saw indistinctly across the room. Being restless, it was not possible to use the ophthalmoscope, so no diagnosis was then made, but it was deferred to a later season.

In the first case measles cannot be considered as a factor in bringing on the optic neuritis, but the marked neuro-retinitis of the second case and the optic nerve atrophy of the third—which was doubtless consecutive to an optic neuritis—and the probable double neuritis behind the eyeball of the last case, all point to the presence of measles as the possible primary cause of the loss of sight. It is well known that the elevated temperature that characterizes the stage of invasion of measles is often accompanied by delirium, and occasionally by convulsions, so that it is somewhat remarkable that authors of books on practice so infrequently refer to any cerebral complication.

One noticeable exception should be made, however, for nearly a quarter of a century ago the lamented master, under whose teaching some of those present were permitted to sit—the late Austin Flint—in the first edition of his "Practice," referred to tubercular meningitis as occurring in a certain proportion of cases after recovery from rubeola. Oculists and neurologists abroad (and Wadsworth and Leszynsky[1] in this country) have written upon the subject and have reported cases.

The lesion is supposed to be a circumscribed, basal meningitis, and non-tubercular, though rarely tubercular deposits are present. It is a curious fact that the eyes may present the changes incident to a severe neuritis, and yet with no perceptible impairment of sight. Again, the vision may amount to only a perception of light.

In cases like the above, the physician who uses the ophthalmoscope has the great advantage in not groping blindly in

[1]N. Y. Medical Record, April 27, 1889.

search of a diagnosis; on the contrary, he is able to testify as to what he has seen. Not wholly relying on the ordinary signs of brain disturbance, pain, drowsiness, paralysis of cranial nerves and the like, by merely looking within the eyes he is frequently enabled to give an opinion as to the trouble with a precision that is calculated to excite the envy of his less favored professional confrères. Measles, like the poor, we have always with us. Considering the number of cases seen yearly by practitioners, it would seem as if meningeal complications, though occurring only infrequently, must occasionally be observed. The subject is one of interest, for, to some, the meagre number of cases so far reported may not be wholly conclusive, for to their minds a dozen coincidences may not satisfactorily establish a theory. (V. Gowers, Medical Ophthalmoscopy, second edition, p. 242).

In what way measles and other exanthemata sometimes terminate in meningitis, the author is unable to explain.

The desirability of making a post-mortem examination in these cases cannot be too strongly emphasized, if we would throw more light on this very interesting, yet unsettled, question.

One point, though not relating to measles, deserves a word of remark.

Till the present time, the pressure of double optic neuritis, with intense headache, has ordinarily been supposed to indicate the existence of an intra-cranial tumor. For example, a dozen years ago the relatives of a man thus affected were informed, on high authority, that he could not live two years. But aside from his blindness, owing to the resulting optic nerve atrophy, he is in health to-day. If a neoplasm ever was present, it no longer causes the cerebral disturbance that was an early and prominent symptom of his trouble, and one which would, perhaps, now be ascribed to a localized meningitis.

The following brief history of an analogous case illustrates what one may learn from a diagnosis according to routine.

Last April, J. R., æt. 35 years, a married man of correct habits, sought advise because of indistinct sight with occa-

sional double sight of about a month's duration ($^5/_{XVIII}$ right, $^5/_{VIII}$ left, field normal; good color sense).

A year before he received a blow on the right side of his head, and he said the same side of his body was afterwards paralyzed for a few hours. His health was not apparently impaired subsequently, though he had noticed morning nausea for some weeks, and he had been obliged to urinate during the night oftener than formerly. He had pronounced double optic neuritis; no hæmorrhages. Urine examined by Dr. F. S. Atwood; sp. g. 1028; no albumen or casts; some granular matter and mucous. Iodide of soda, 1 gram a day, was ordered.

He soon returned, complaining of severe frontal pain with vertigo; great staggering on walking; fair patella reflex.

By July the vision had so fallen off that fingers only could be counted when held close to his eyes.

In the pretty confident belief that a tumor must be present, he was referred to Dr. J. P. Putnam, who felt inclined to ascribe the neuritis to the blow of the preceding year. He thought it probable that a hæmorrhage had involved the crura cerebri and the optic tracts, and advised largely-increased doses of the iodide and association with a small daily amount of mercury. He was seen later by Drs. Walton and Cheney at the M. S. Hospital.

In October the headache and vertigo had quite passed away and with it the remaining eye-sight.

When last examined, the swelling around the discs had disappeared, leaving marked atrophy of both nerves, and without any trace of light-perception.

MEDICAL NOTES.

BY H. CULBERTSON, M.D., ZANESVILLE, OHIO.

Pterygium.

The cause of this lesion, so far as I know, is obscure. It is probable there are several factors active in producing this affection. In many of my cases a marginal corneal ulcer has been the cause. Trachoma is a cause. The inflammation from the presence of gunpowder at the corneal border may induce it, and other foreign particles also. Caruncultis may induce it from whatever cause excited. The location of this "wing," as all know, is generally on the nasal side of the cornea, and its situation on the temporal side is comparatively rare, and it is still less often seen above, and so far as my own observation is concerned, I do not remember to have seen a case below the cornea. It is not improbable that a greater quantum of blood circulates at the inner canthus, in the region of the lacus lachrymalis, in the caruncle, from the free vascular anastomoses between the nasal, palpebral, angular and supraorbital (branches) arteries, than is found at the external canthus and its vicinity. It is possible too that there is less support from the eyelids at the inner, than at the outer angle of the eye. This favors hyperæmia at the inner angle. The eye is being cleansed from the outer to the inner angle by the lachrymal secretion, and hence free foreign bodies are deposited at the inner angle, often inducing irritation and inflammation at this point. If the tears are decomposed this may be a factor in inducing pterygium.

It is not improbable that the great duty imposed upon the internal rectus muscles, as stated by Dr. Theobald, is a factor.

But from whatever cause induced this affection is somewhat difficult to cure. For a number of years I have thought that the great objects are to induce a firm marginal corneal and non-vascular scar, which acts as a barrier against the return of the disease (as we seek to place healthy skin between the divided cicatrix from burns), and also to promote contraction and diminution in the pterygium itself in cases where it is not abscised. Suppuration favors ultimately the wasting of the "wing" when not removed. I do not remember of having secured a union by first intention of the conjunctiva at the apex of the triangle after elevation of the pterygium.

I have done all the operations that can be done for this affection, and now prefer to do the following procedure. The eye under cocaine, the apex of the wing is firmly seized with rat-toothed forceps, and torn off or clipped close to the cornea. The flap is then drawn toward its base and cut with scissors back to its base. Nothing is done with the bed of the pterygium, nor with the "wing;" it is simply left lying free in the bed made by the operation. It is now shrunken, because its basic circulation has been cut off in the operation. Soon some inflammation follows in the "wing," leading on ultimately to further wasting and diminution in the size of its vessels. No suturing of the conjunctiva is employed, as the wound does not unite primarily, at least generally, and the bed of the wound is left open and the now retracted wing layed in it. Soon the flap unites along its sides, and the scar of cornea and apex of flap heals.

After the operation the following collyrium is used three or four times daily to diminish the caliber of bloodvessels and size of flap, viz.:

℞ Cupri sulph., - - - - - gr. ½.
Cocaine muriate, - - - gr. iij.
Aqua borac., - - - - - ℥j.

Filt. S. 3 or 4 drops in eye t. d.

The object is to keep down reaction and to avoid caustics. Use is made of a 10 grain solution of boric acid, to the ounce of water, as a disinfectant. I have long since ceased to abscise a

pterygium, finding this course too often leads to a new growth and to the contraction of this toward the corneal margin, and advancing the caruncle toward the cornea and limiting the excursion of the eyeball, and which wing becomes more fleshy. tha ı before the operation. The purpose is to make as small a wound as possible and diminish the irritation to the lowest point. A scar remains at the margin of the cornea, which generally persists as a guard against the return of the affection, save in the lightest forms of pterygium.

Mercurial Prophylaxis.

Numerous operators have availed themselves of the exhibition of mercury to prevent inflammation following upon surgical operations.

Occasionally this plan has been of advantage to me, as in the case briefly cited.

Ten years ago, having extracted a cataract for a gentleman of plethoric habit, whose face and neck were continually flushed, and who had a short neck and injected conjunctiva, I did not expect trouble, as the operation was normal in every respect. However in three days plastic iritis came up, which was relieved without mercury, leaving a closed pupil adherent to remains of capsule. Some weeks after, when the eye was free from irritation, I made a central transverse pupil through capsule and iris, with a very small iris scissors, and through which the patient saw well. But iritis again recurred, was cured by treatment without mercury and the pupil again closed. Waiting several weeks until the eye was free from irritation, I employed mercurial inunctions freely for twenty-four hours before operating, when I opened the cornea with a broad. spear-pointed and flat knife at its lower border, and dividing with the scissors, the iris and remains of the capsule, in the coloboma, from the iridectomy, as high up as it was closed. The inunctions were continued until the gums were touched at the end of three days, and I had the satisfaction of being relieved of my *bête noire*, and sending my sixty-year old patient

home in two weeks, seeing so well that he could "shoot a squirrel from the top of the highest trees as well as he ever did" with this eye.

Mercury in Chronic Choroiditis and Retinitis.

Not infrequently I have found this agent useful not only in the more active stages, but also in later periods of these diseases. As we cannot determine just how much the retinal textures are histologically involved by plastic effusions from the inflammation, owing to the transparency of the retina, I have frequently improved vision by guarded courses of mercurial inunction, followed later with the bichloride of mercury by mouth, and continued possibly one or two months.

Several years ago, an old and public man, æt. 70 years, called me in as consultant, who was suffering with a diseased and worthless eyeball, and with sympathetic inflammation of the fellow eye.

The indications were to remove the former by enucleation, but on careful consideration I determined that the man was too feeble to undergo the operation, and gave morphine and chloral, and stimulants and quinia in sustaining doses, and used mercurial inunctions to improve the condition of the fellow eye. The result was that the vision of the eye was restored, and the worthless eye became atrophied and quiescent, and the patient slowly recovered.

Another case. I removed a pasty cataract from a lady, æt. 50 years. The operation was smooth and done under Panas fluid, and the chambers were washed out with boiled boric acid solution, filtered and used warm. I did Galezowski's operation, and the pupil contracted well after using a weak eserine solution, $^1/_2$ gr. to ℥j. She saw well immediately after the operation. Next day there was iritis which, in spite of treatment, disinfectants, etc., became panophthalmitis, and even the cellular tissue of the orbit became involved. In six days I was compelled to remove the eyeball. The bleeding from the orbit was so free that I plugged Tenon's capsule with a

narrow strip of muslin, saturated with pure undiluted Liq. ferri persulphat. This arrested the bleeding, and in three days the strip became detached and was drawn out of the open capsule. Disinfectants were used freely. Quinine, tr. iron, stimulants, and from the day of the removal of the eyeball mercurial inunctions were used, and on the third day the gums were touched, when the inunctions were discontinued. The patient recovered promptly, and the orbital cavity did not suppurate outside of the capsule of Tenon. She stated to me that her physician at home had told her that she was subject to erysipelas of the head and face. But her eye inflammation was not erysipelatous. From the time she came under the influence of the mercury there was a decided improvement observed.

Again, if on enucleating an eyeball, I find the fellow eye sympathetically involved, I use morphine and chloral internally, keeping the patient steadily under their influence, and use mercurial inunctions for a few days, and often follow with Hydr. bichloride internally, looking to the protection of the retina and choroid of the remaining eye by mercurials.

To refer to another subject, I would say that my experience has taught me that in all operations upon the lens capsule for secondary cataract, it is of the first importance not to involve the iris in the operation. If the case will admit, my rule is, keep off the iris.

I must not forget to call the attention of ophthalmologists to the use of antipyrin in 10 grain doses, usually requiring only two or three doses, one every hour, in the first stages of iritis. I first used this June 14, 1885, and published the same. This agent still does well by me in such cases.

TRANSLATION.

ON THE VALUE OF MYDRIATICS AND MYOTICS FOR THE IMPROVEMENT OF VISION IN CASES OF FIXED OPACITIES IN THE DIOPTRIC SYSTEM OF THE EYE.

BY D. B. WICHERKIEWICZ.

Archives d'Ophtalmologie.

A beginning cataract causes much dazzling by the diffusion of luminous rays and this again causes such a considerable diminution of vision, that it is out of proportion of the real opacity in the lens.

The use of dark glasses does not help the patient a great deal, often not at all. Since the pupil is less exposed and receives less light (? Transl.), it is dilated and the luminous rays, although weakened, penetrate into the eye over a larger surface which is lying in front of the dim portions of the lens: in consequence, the eye receives the image of the objects more blurred and with contours less sharp, than formerly. Moreover, if a patient with beginning cataract puts on dark glasses on a very dark day, he sees no clearer on account of the lack of light. Therefore, such patients use dark glasses in exceptional cases only; when they use them, they do so only in order to defend themselves against the too brilliant glare of the light.

We know that, when we have not to deal with a nuclear cataract, the opicity of the lens begins at its periphery and gradually increases toward its centre in the anterior and poste-

rior cortical substance. As soon as the opacity covers more than half of the pupil, the patient begins to experience the well-known disagreeable symptoms of blurring, troubled vision, etc., and that is just the moment when he comes to consult the physician.

And what does the physician do? Most frequently, under some pretext or other, he hides from the patient his real condition, even at the risk of being considered an ignorant, who could not recognize the disease, in case the patient should see a physician who should tell him the truth. In other cases he tells the patient simply what is the matter with his eye, and thus takes at once away the hopes of improvement by a successful operation, which is so sweet in such cases.

From this on the patient troubles himself more or less for months and even years without the least consolation, when it would have been the physician's duty, not only to comfort the unfortunate one and to fill his heart with hope, but even to ease the weary time of waiting until the cataract is fully ripened and to help, as much as possible, to attend to his affairs, follow his daily business, his pleasures even, his accustomed ways, as much as his vision will allow.

According to these indications the mydriatics and myotics help greatly to solve this difficult problem.

When we have to deal with opacities in the refracting media situated in the centre, that is central opacities in the cornea, an anterior or a posterior capsular cataract, we may try by the aid of mydriatics, especially those that do not interfere with accommodation at all (cocaine), or at least but little (homatropine, hyoscyamine) (? Transl.) to improve vision by uncovering such parts of the refracting media which are more transparent.

Yet we are taught by experience that although these advantages seem useful in theory, they are not so in practice; moreover, it does not lie in our power to eliminate the dim portions of the refracting media from the field traversed by the light rays and in consequence they always render the images blurred. To this we must add, that the axial rays do not help in the formation of the image.

It is, therefore, certain that we do but little in the way of improvement by the mydriatics, whilst on the contrary, we often run the risk of bringing about considerable blurring.

According to my opinion, the employment of a mydriatic which does not influence the accommodation, like cocaine, could only be indicated in cases in which it would be desirable to procure near-vision, and when we would have to deal with central opacities of the refracting media. It is well known that patients afflicted with this kind of opacity see comparatively better at a distance than near by, because the convergence of the visual axis induces at the same time a contraction of the pupil, so that the opacities may cover it totally. To what extent a single instillation may help in such cases, may be seen from the following case taken at random from many others.

M. S., æt. 64 years, has a nucleo-cortical cataract of the right eye, on his left cornea are nubeculæ almost centrally situated, and, moreover, considerable irregular opacities in the anterior cortical substance. L. E. V=$^{6}/_{XII}$; H+4.D; with+6 Schweigger 0.8; punctum proximum 30 centimetres. Half an hour after the instillation of a 3% solution of cocaine V=$^{6}/_{XII}$; H+4; Schweigger 0.5 with little diffculty. and even 0.4 with+6; punctum proximum 30 centimetres.

In cases of a high degree of myopia, we might employ homatropine, jusquiamine, or even atropine; yet, it is better not to employ these habitually, because the repeated instillation of these remedies is not without danger. Furthermore, the advantages gained by the artificial mydriasis, do not, as a rule, counterbalance the inconveniences it causes by producing the blurring which is always very disagreeable.

Under the conditions just mentioned we can gain much better and lasting results by carefully making an optic iridectomy (as I have advocated in an article in *Centralblatt f. pr. Augenheilkde*, February, 1883). The condition is different, when the opicities lie in the periphery of the dioptric system. Peripheral opacities of the cornea as well as certain forms of cataract cause disturbances of vision which by the instillation of a my-

otic cannot only be for the time sensibly diminished, but even completely eliminated.

Let us suppose, that we have to deal with the development of a partial peripheric traumatic cataract, or, what is more often the case, with a beginning senile cataract, which beginning in the periphery continues to grow toward the centre, a condition fraught with visual disturbances. If we bring about a contraction of the pupil in such a case, we can hope for a marked improvement in vision. Among the well-known myotics, it is especially the pilocarpine which before others deserves to be mentioned here, since it contracts the pupil sufficiently and for a certain period of time, without influencing the accommodation too strongly and persistently.

Eserine evidently acts upon the accommodation as pilocarpine does upon the contraction of the pupil. The researches of W. Lang and T. W. Basset prove this to be the case. * * * Another remedy little used by oculists, which belongs to the class of myotics is muscarine. * * * Krenchel and Schmiedeberg agree, that the influence of muscarine upon the iris is independent of the one this substance exerts upon the accommodation ; there are patients in whom the simultaneous instillation of muscarine and atropine dilates the pupil considerably, and causes at the same time a spasm of the accommodation. It is evident from this, that muscarine does not answer our ends.

Aside from the physiological properties which make pilocarpine preferable to eserine and muscarine, there is another grave reason, why we should not recommend the use of these latter remedies too strongly, and that is, that they disintegrade very easily while pilocarpine, on the contrary, if of good quality, can be kept for whole months without losing anything of its efficacy. Moreover, eserine causes a hyperæmia of the iris, and often ciliary neuralgia, while pilocarpine does not.

I have, in consequence, given the preference in most of my cases to a $^1/_2$ or 1 % solution of pilocarpine, and the patients so treated, whether they were emmetropes, myopes, or hypermetropes, were always astonished at the prompt and satisfactory

effect of this remedy. Especially was this so with the hypermetropes, whose accommodation is increased by the pilocarpine, which is not the smallest benefit they derive from its use.

These and the presbyopes may use two to three instillations a day, while for myopes one drop once or twice a day may suffice.

Instead of making a long statistic enumeration and to report my observations, I prefer to cite only one case in support of what I have stated concerning the use of pilocarpine.

M. Z., æt. 67 years, R. E. V=$^{20}/_{C}$; H 3.5; Jaeger 12 with +6 D. Punctum proximum 27 centimetres. L. E. V=$^{20}/_{L}$; H 2. 5; Jaeger 7 with+ 5 D. Punctum proximum 27 centimetres.

The ophthalmoscope shows an opacity in the cortical substance beginning at the equator and reaching with some processes into the middle of the pupil; in the left eye the opacity reaches to within the margin of a midde-wide pupil. Fundus normal.

Prescription: $^{1}/_{2}$% solution of pilocarpine to be instilled mornings and evenings.

A few days after the patient is greatly surprised at the effect produced by the drops, since she sees now quite well.

R. E. V=$^{20}/_{LXX}$; H 3; Jaeger 10 with+6.

L. E. V=$^{20}/_{XL}$; H 2; Jaeger 4 with+6.

The pupils are nicely contracted, but act well upon the stimulus of light.

It is evident that pilocarpine is not only of value in cases of unequal refraction or diffusion of the light, as we find in beginning cataract, but it will be equally valuable for other optical purposes in order to aid the restricted accommodation, in aphakia with remnants of the capsule or cortical substance, in corneal opacities, in dislocation of the lens when it causes diplopia. The following case is a sample of the optic effect in a case of corneal opacities:

A. K., æt. 10 years, had his right eye burnt by lime in December, 1888. An ulcer followed, resulting in a leucomatous

opacity of the outer portions of the cornea, which was very dense near the periphery, while its more centrally located processes were semi-opaque.

January 19, of the same year, he consulted me on account of seeing everything in a mist. R. E. V=$^{20}/_{CC}$; M 15; Jaeger 11. Prescribed: Pilocarpine in a 1% solution, to be instilled once a day.

January 23, R. E. V=$^{20}/_{LXX}$; M 15; Jaeger 3.

The treatment with pilocarpine has the further advantage, that it may be employed for a long period without the slightest inconvenience, even to the most susceptible conjunctiva.

SOCIETY PROCEEDINGS.

TENTH INTERNATIONAL MEDICAL CONGRESS, BERLIN, 1890.

REGULATIONS AND PROGRAMME.

I. The Tenth International Medical Congress will be opened in Berlin on Monday, August 4, 1890, and will be closed on Saturday, August 9.

II. The Congress shall consist of legally qualified medical men who have inscribed themselves as members, and have paid for their card of membership. Other men of science who interest themselves in the work of the Congress, may be admitted as extraordinary members.

Those who take part in the Congress shall pay a subscription of 20 marks (1£ or $5), on being enrolled as members. For this sum they shall receive a copy of the Transactions, as soon as they appear. The enrollment shall take place at the beginning of the Congress. Gentlemen may, however, be enrolled as members by sending the amount of the subscription to the Treasurer[1] with their name, professional status and residence appended.

III. The object of the Congress is an exclusively scientific one.

IV. The work of the Congress will be discharged by eighteen different sections. The members shall declare upon enrollment to which section or sections they intend more particularly to attach themselves.

V. The Committee on Organization shall, at the opening sit-

[1]Treasurer's address: Dr. M. Bartels, Berlin SW., Leipzigerstrasse 75.—Please to enclose a visiting-card.

ting of the Congress, suggest the election of a definite committee (or bereau) which shall consist of a President, three Vice-Presidents, and of a number—as yet undetermined—of Honorary Presidents and Secretaries.

At the first meeting of each section a President and a certain number of Hon. Presidents shall be elected; these latter shall conduct the business of the sections in turn with the Presidents.

On account of the diffrent languages employed, a suitable number of Secretaries shall be chosen from among the foreign members. The duties of the foreign Secretaries shall be confined to the sittings of the Congress.

After the termination of the Congress the editing of the transactions shall be carried out by a committee appointed for this purpose.

VI. The Congress will assemble daily, either for a general meeting or for the labors of the different sections.

The general meeting will be held between 11 and 12 o'clock, Three such meetings will take place.

The time for the sittings of the various sections will be fixed by the special committee of each section, it being understood, however, that no such sittings are to take place during the hours alloted to the general meetings.

Joint sittings of two or more sections may be held, provided that the bereau of the Congress can offer suitable rooms for such sittings.

VII. The general meeting shall be devoted to:

a. Transactions connected with the work and general management of the Congress.

b. Speeches and communications of general interest.

VIII. Addresses in the general sittings as well as in any extraordinary meetings which may be determined upon only be given by those who have been especially requested by the Committee on Organization.

Proposals relative to the future management of the Congress must be announced to the Committee on Organization before July 1, 1890. The committee shall decide whether these proposals are suitable to be introduced for discussion.

IX. In the sittings of the sections, questions and problems will be discussed, which have been agreed upon by the special Committee on Organization. The communications of those appointed by the committee to report on a subject, shall form the basis of discussion. As far as time allows, the communications or proposals, proceeding from members and sanctioned by the committee on Organization may also be introduced for discussion. The bereau of each section decides as to the acceptance of such offered communications, and as to the order in which they shall come before the meeting, always provided that this point has not been already determined in the sitting itself by a decree of the section.

Scientific questions shall not be put to the vote.

X. Introductory addresses in the sections must as a rule not exceed *twenty minutes in length.* In the discussions no more than *ten minuies* are allowed to each speaker.

XI. All addresses and papers in the general and sectional meetings must be handed over to the Secretaries, in writing, before the end of the sitting. The Editorial Committee shall decide whether—and to what extent—these written contributions shall be included in the printed transactions of the Congress. The members who have taken part in the discussions, will be requested to hand over to the Secretaries, before the end of the day, in writing, the substance of their remarks.

XII. The official languages of all the sittings shall be German, English and French. The regulations, the programme and the agenda for the day will be printed in all three languages.

It will, however, be allowable to make use of other languages than the above for brief remarks, always provided that one of the members present is ready to translate the gist of such remarks into one of the official languages.

XIII. The acting president shall conduct the business of each meeting according to the parliamentary rules generally accepted in deliberative assemblies.

XIV. Medical students, and other persons, ladies and gentlemen, who are not physicians but who take a special interest

in the work or a particular sitting, may be invited by the President or be allowed to attend the sitting by special permission.

XV. Communications of inquiries regarding the business of separate sections. must be addressed to the managing members thereof. All other communications and inquiries must be directed to the General Secretary, Dr. Lassar, Berlin, NW., 19 Karlstarsse.

Committee on Organization of Sections for Ophthalmology: O. Becker, Heidelberg; Eversbusch, Erlangen; v. Hippel, Giessen; Hirschberg Berlin; Leber, Gottingen; Michel, Wurzburg; Schmidt-Rimpler Marburg; Schweigger, Berlin NW., Raonstr. 6; v. Zehender Rostock.

INVITATION TO THE TENTH INTERNATIONAL MEDICAL CONGRESS.

In accordance with the decision of the Ninth Congress at Washington, the Tenth International Medical Congress will be held at Berlin from August 49, to 1890.

By the delegates of the German Medical Faculties and the chief Medical Societies of the German Empire, the undersigned have been appointed members of the General Committee on Organization. A Special Committee on Organization has also been appointed for each of the different sections, to arrange the scientific problems to be discussed as the meetings of the respective sections. An International Medical and Scientific Exhibition will also be held by the Congress.

We have the honor to inform you of the above decisions and at the same time cordially invite your attendance at the Congress. We should esteem it a favor if you would kindly extend this invitation to your friends in medical circles, as way may offer.

We beg to accompany our invitation by a copy of the Statutes and Programme, as also by the list of the intended sections and their Special Committee on Organization.

President.—Dr. Rudolf Virchow; Vice Presidents.—Dr. von Bergmann, Dr. Leyden, Dr. Waldyeyer; Secretary General.—Dr. Lassar. All communications must be directed to the General Secretary, Berlin NW., Karlstrasse 19.

SELECTIONS FROM AMERICAN MEDICAL JOURNALS.

SYMPTOMS OF GRAVE DISEASES OF THE NERVOUS SYSTEM RELIEVED BY RESTORATION OF THE EQUILIBRIUM OF THE EYE MUSCLES.[1]

BY J. F. FULTON, PH. D., M.D.,
Professor of Ophthalmology and Otology in the University of Minnesota.

The author of this paper has much more than a professional or scientific interest in this subject; he has a personal interest in it, being a victim of a low grade of myopic astigmatism, which produced considerable insufficiency of the internal recti muscles. This was relieved by careful, correction of the error of refraction and by prolonged systematic exercise which restored the strength of the weak muscle; but this was done after patient treatment, lasting over many months, and the loss of two years' study in college. With our present knowledge the trouble could have been relieved almost instantaneously.

There can be no more interesting study to the physiologist and the practical ophthalmologist than the mechanism of the movements of the eyeball, together with the relationship of its various groups of muscles. The eye is moved in various directions by six small muscles which are supplied by various pairs of nerves.

I do not wish to enter into a theoretical study of the complicated mechanism of the centers which govern the move-

[1]Read before the Minnesota Academy of Medicine, January 4, 1890.

ments of the recti muscles except so far as it is necessary to illustrate the subject of this paper. It is well known that the internal recti muscles are supplied by the third, the external recti muscles by the sixth pair of nerves, each originating from a different nucleus. When the two eyes look into the one direction there is, of course, contraction of the external rectus of one eye and the internal rectus of the other; this is brought about by the nucleus of the sixth on the one side and of the third on the other. It requires but a moment's consideration to appreciate the complicated mechanism necessary to bring this about, and the perfect harmony necessary in order that there may be no disturbance of this complicated mechanism.

These so-called recti muscles, while in a certain sense independent of the muscles of accommodation, yet in a very important sense bear a close and inter-dependent relationship. As long as these muscles act in perfect harmony, as long as they retain their physiological strength, the act of vision is without pain and without annoyance, but as soon as one set of muscles obtain the advantage in the way of strength over the other, reflex irritations are produced which result in symptoms as grave and as alarming as any of the organic diseases of the nervous systems.

Our paper to-night introduces a subject which occupies a standpoint between two great specialties, namely :ophthalmology and neurology—a subject which, in a certain sense, has become a speciality by itself.

Let us see what we mean by loss of equilibrium. Græfe taught that when the ocular muscles are accurately proportioned in respect to their dynamic conditions, and the performance of binocular vision is accompanied with the least expenditure of energy, the ocular muscles are to be regarded as "in equilibrio." Loss of equilibrium must be distinguished from strabismus on the one hand and absolute paralysis on the other. The loss of strength with which we intend to deal to-night may be illustrated as follows: In strabismus there is an apparent deviation of the eye in some direction: binocular vision is lost by the vision being suppressed in one eye. In paralysis

of any of the recti muscles, there is an apparent deviation of the eye; binocular vision is lost and diplopia is present. But, in the class of cases of which we treat, binocular vision is habitually maintained by the expenditure of a greater amount of force than is demanded when the muscles are in the equilibrium. This constant effort on the part of the weak eye-muscle to maintain binocular vision, reflexly produces a series of symptoms which may simulate almost any disease of the nervous system, and many of the diseases of the various organs of the body.

It is my purpose to make this paper strictly clinical so I shall only hint at the theoretical parts or the subject. When we take into consideration the constant motion of the eye-ball, we cannot wonder at the fact that occasionally these muscles give out. With every new adjustment of the eye, their relations must be so precisely maintained as to permit the line from the point seen to fall upon the same minute portion of the retina of the eye, that not only the muscles which move the eye-ball, but the muscles of accommodation must act in perfect harmony. This ever changing and extremely accurate association of action is not found elsewhere in the human organism.

The symptoms produced by loss of equilibrium of strength of the eye muscles are as numerous as the leaves of the autumnal woods, but I propose not to describe a general picture of the muscular anomaly known as heterophoria, but to take up the more prominent symptoms which it produces. The first and most important is headache. I have now operated for heterophoria, in some of its forms, two hundred and sixty times. Of this number, one hundred and ninety suffered from headache, In a vast majority of cases the headache was cured; in nearly all, relieved. In some few cases we were in grave doubt as to the cause of the insufficiency. One case I treated in consultation with Dr. Riggs. There was an insufficiency of six degrees of the internal recti. There was a marked hyperæmia of the optic nerve and retina. In this case, which is still under treatment, there is a strong suspicion of cerebral tumor. At any

rate, an operation upon the external recti muscles did not relieve his headache, although it corrected his exophoria. So the statistics which I am able to produce indicate that headache is the most frequent result of this trouble. The pain is very frequently in the occipital region. It may be frontal or it may be confined to the region of the eye. We can certainly say this much, that before any case of headache is treated, the condition of the muscles should be first tested. It has long been known that errors of refraction, in any form, would produce headaches. It will frequently happen that after you have corrected your error of refraction, the eye will still remain uncomfortable; the headaches may be modified, but are not completely relieved until the equilibrium of the strength of the eye muscles is restored.

It has been my privilege to meet with three cases of chorea confined to the muscles of the lids and face, caused by heterophoria. At any rate, a partial tenotomy of one or other of the recti muscles, together with the correction of the refraction trouble, completely relieved the sufferers. They were all children about ten or twelve years of age.

Vertigo is a frequent symptom of loss of balance of strength on the part of the recti muscles. Weir Mitchell says that he has repeatedly known distressing cases of dizziness to be relieved after a careful adjustment of lenses to the eye, but it has been my experience that this is just as frequently due to weak muscles as to error of refraction, the error of refraction probably being a primary trouble.

Mr. W., a prominent business man of St. Paul, found it necessary to give up his business and go to some of the watering places in order to get rid of a constant vertigo from which he suffered. He visited the prominent watering places of Europe consulted some of the best known surgeons of the Continent. An examination showed a very low tendency of one eye downward, and a tenotomy of the inferior rectus completely relieved his trouble, although it had lasted nearly two years, and he has continued well now for more than a year.

It is well known that Dr. Stevens, of New York, claims to

have cured cases of epilepsy by means of restoring the equilibrium of strength of the eye muscles. With this subject I have had no personal experience. In several cases detailed by that author, complete cessation of the epileptic fits took place, while in other cases the cure was not absolute, but considerable amendment ensued.

Wigleworth, of the Rainhill Asylum of England, and Bickerton, the oculist of Liverpool, have taken up the same subject and arrived at the same conclusions as those of Dr. Stevens.

It is a well known fact that a large proportion of epileptics have errors of refraction, and it seems to justify us in the assumption that certain cases of epilepsy do occur in which the attack is induced by an undue strain upon the muscular apparatus of the eye, by reason of an abnormality of refraction.

Neurasthenia is very frequently caused by imperfect action of the muscles. The most remarkable cases of this kind came under my observation during the past few months. Mr. G., a man of forty years of age, a hard working and active business man, was taken down by the most pronounced symptoms of exhaustion, fatigue and a general "played out" condition as he expressed it. He was examined (and you can judge was determined to get well by the number and character of men whom he consulted); by such prominent men as Weir Mitchell of Philadelphia, Seguin, of New York, Hughlings-Jackson, of London, and Charcot, of Paris. They all agreed in pronouncing it bad case of neurasthenia and followed out about the same line of treatment. He obtained little or no relief. About a year ago, while in New York, he had some trouble with his eyes and was referred to Dr. Webster. Dr. Webster found myopic astigmatism of one eye and mixed astigmatism of the other. He also found a high degree of esophoria, together with hyperophoria, which he corrected by combining with the cylinders a No. 4 prism with the base out, and a No. 1 prism with the base down. This partly relieved his neurasthenia and his distressing headache, but only partly. He did not have time to have an operation performed in New York, but cam

to my office for that purpose about three months afterward. A free tenotomy of the internal rectus muscle of one eye was performed, and a graduated tenotomy of the superior rectus of the other eye. After this healed it was found that there were still about three degrees of esophoria remaining. This was corrected by doing a graduated tenotomy upon the internal rectus muscle of the same eye upon which the graduated tenotomy of the superior rectus was done. This completely relieved his trouble; he had no more headache, his neurasthenia immediately began to improve: his mental condition became much better, and for the first time in many years he was able to work without a feeling of exhaustion and discomfort.

That the irritation may extend farther than the brain and the meninges is proved by the following case: Mr. D., æt. 43 years, came to my office to be fitted with glasses to read with. He told me that he had not read for many years, because every time he attempted to do so there was a feeling of weakness of the spine, which was very annoying; he feared organic disease of that part of the body. In the course of the examination it was found that he had seven degrees of weakness of the external rectus muscle. We told him that we could not promise for a certainty, but that the trouble with his spine might be dependent upon the trouble with his eyes. He has now been under my treatment for more than a year. A graduated tenotomy of both internal recti muscles has had the effect of completely removing the sensation of weakness of the spine, as well as of greatly improving his general health.

We occasionally meet with cases of apparent hemi-anæsthesia, which seem to be due to the same trouble. How it is produced I shall not attempt to explain; I am simply familiar with the clinical fact.

About two years ago, Dr. Riggs sent a well-known gentleman of this city to me, with a feeling of numbness over one side of the body. He was much depressed; feared an attack of paralysis. This extended over the whole left side of the body, the tongue as well as the arm, hand, leg and foot. He had myopia of the right eye. This was carefully corrected,

and, later on, the insufficiency of the muscle was corrected, after which he obtained relief; the symptoms entirely disappeared. So anxious was he about this condition of affairs that he went to Chicago to consult Dr. Jewell, who told him that it might be dependent upon the condition of his eye.

Certainly nothing could be more remarkable than the following case, which has been kindly furnished me by Dr. Jones, the accuracy of which will be verified by a number of the physicians of our city:

JOHN F. FULTON, M.D., *Dear Doctor:*—"I willingly comply with your request for a report of the case referred to. Mr. M., æt. 28 years, a native of New Jersey, has resided in Minnesota for twelve years. He is a writer of considerable literary finish and is on the staff of one of our daily newspapers. He first came under my observation about one year ago, for acute cystitis, caused by a tight stricture in the membranous portion of the urethra, but declined on operation until after his marriage which took place shortly afterward. He denied ever having had syphilis, and had a good personal and family history, except gonorrhœa, which caused the stricture referred to.

"About six months ago I was called to see him at night and found his wife greatly agitated over his condition. He was in a semi-comatose condition, with widely dilated pupils, and was breathing stertorously. After a careful examination, opoplexy, uræmia, alcoholic or opium toxæmia were excluded. When rather roughly shaken he could be aroused and would give fairly intelligent answers to questions, but his speech was stuttering and stammering, and the wrong words were frequently used to express his ideas. He complained of a loss of sensation of the right half of the body and tingling of the tongue and lips of the same side, together with great confusion of ideas. There was some disorder but no paralysis of motion. After his recovery he was frequently under observation and a careful investigation of his case was undertaken. He suffered somewhat from pyrosis and heartburn. Examination of his heart, lungs, kidneys, etc., yielded negative results. He frequently experienced a severe pain over, and sometimes in, the

eye of one side, which was invariably accompanied or followed by nausea or vomiting (migraine). He was myopic, for which he had long worn glasses. He told me that for several years he had been occasionally subject to sudden attacks of numbness of the right side of the body, the palate, tongue and lips of the same side, which was attended by strange speech disturbances, together with disorders of ideation and volition. If the attacks were mild, he merely misplaced his words or used wrong words while speaking. If an attack was unusually severe, he experienced complete aphasia, which, however, was only temporary. He had both diplopia and hemiopia. Thus while attending a game of baseball, part of the time he could only discern that half of the player's body above the belt, while a few minutes afterward only that half below the belt. In numerous other ways was this hemiopia shown.

"During the intervals of his attacks he enjoyed good health, and there was apparently no deterioration of intellect or loss of memory. The attacks came on suddenly with disorder of vision, vertigo, nausea, right-sided numbness and partial or complete aphasia. During the attacks, pins or needles thrust into the right side of the body caused no pain. Tactile sensibility was notably diminished. Sometime ago he was carried out of a crowded theatre in Minneapolis in the midst of a performance; on reaching the sidewalk he was unable to tell the hackman the street and number of his residence. He could understand what was said to him, and the preservation of his intelligence was shown by the expressive signs and gestures he made in lieu of articulate language. He knew the words he wanted to speak but was unable to utter them. This inability to speak was not owing to a loss of co-ordination of the muscles involved in speech, or to paralysis of the same, but was rather that variety of ataxic aphasia in which there is a loss of the power to use words expressive of ideas, and a loss of the faculty of calling surrounding objects by name or telling the own name to acquaintances.

"The more the case was studied the greater became my conviction that the patient was suffering from a grave intra-cranial

lesion of an obscure nature. His sudden attacks of partial unconsciousness, the vertigo, the numbness of the entire right half of the body, amounting to hemi-anæsthesia, the speech disorders or complete aphasia, the diminished tactile sensibility, diplopia and hemiopia all pointed, I thought, to a cerebral disorder, whose apparent location or site was in the left frontal convolution, or that region connecting it with the island of Reil, and with the central and parietal convolutions. While at my wits' end as to diagnosis, your opinion was sought concerning the significance of various disorders of vision which were such prominent features of the case. After an examination, you expressed the belief that the whole trouble was due simply to errors of refraction and could be cured by treatment directed to that condition. Though myself skeptical of any improvement taking place from such a line of treatment, and thinking you took a too optimistic view of the case, subsequent events demonstrated the correctness of your conclusions, as a year has now elapsed since the patient left your hands and he has had no return of his disorder, and continues his literary employment with an unimpaired intellect. Very truly yours,

TALBOT JONES."

A word may be said, in closing this paper, about my mode of operating. It is very simple and chiefly the same as recommended by Dr. Stevens, of New York. I use his instruments, which consist of a delicate pair of scissors, a very small hook and delicate fixation forceps. I rarely, however, use the hook except in extreme cases. I first take up the conjunctiva with the fixation forceps and make an opening in this membrane immediately over the insertion of the muscle upon which I wish to operate. The fibres of the muscle are then picked up with the fixation forceps and cut off very close to the eye-ball. Thus a hole is made through the tendon of the muscle. This is done in a dark room with an assistant throwing a focus of light upon the eye by means of a large lens, the operating chair being placed twenty feet from the candle, and the frames with the prism in it at hand, so as to produce diplopia and judge of the amonnt of correction necessary. Fibre after fibre

is thus cut until one candle comes over the other, or they are brought upon a level, as we require. In this way, a perfectly accurate adjustment can be obtained, and we can correct just as much or little as we wish. The patients go forth to their work immediately after the operation, as though nothing had been done, and the relief in nearly all cases is immediate. The question is often asked, "How much insufficiency is it necesto have in order to perform an operation?" My answer is, any amount that produces serious annoyance to the patient. One-half degree of insufficiency of the internal recti, in one person, may give rise to the most alarming symptoms, while eight or ten degrees in another will scarcely be noticed. So we are not guided by the amount of insufficiency, but by the amount of trouble which it produces.

Dr. Seguin remarked, in a conversation with a private patient of mine, that he had noticed the influence of insufficiency of the eye muscles as a factor in the production of nervous diseases, long before Dr. Stevens drew the attention of the profession to this subject. Dr. Agnew, in a private conversation with me, said that he had met cases in which maintenance of binocular vision was so annoying to the patient that he considered it justifiable to perform a free tenotomy of the internal rectus muscle and let one eye go, as he expressed it. He, like many other prominent oculists of his day, did not believe in the efficacy of a graduated tenotomy. I had been in the habit of performing what I call partial tenotomy long before Dr. Stevens described his so-called graduated tenotomy, and had succeeded in relieving many cases after glasses or prisms had failed to give relief. If anyone should be skeptical as to the results published in this paper, I shall be only too glad to have them go over my book with me, or to meet personally patients themselves, the addresses of all of whom I have kept, and shall be glad to have any of my professional friends meet them.

One of the most remarkable cases was that of a lady from Fargo, a patient of Dr. Darrow, and who from her earliest youth had been the victim of the most fearful and agonizing

headaches. The cause of her headache was a six degree insufficiency of the internal recti muscle. Two weeks after a tenotomy of the externi she wrote me, saying: "Doctor, you have cut the headache string, I have had no headache since the operation; the first two weeks of comfort that I have enjoyed during my life."

It will thus be noticed that headache, varying in intensity from that which is simply annoying to that which is beyond control and requires the use of an anæsthetic or powerful anodyne to give relief, is the most frequent symptom of loss of equilibrium of strength of the eye muscles. It is well known that it is a freqent symptom of various forms of eye trouble. Dr. Gould, of Philadelphia, noted 312 cases of headache out of 500 patients, in private practice. Vertigo is the next most common. The other grave symptoms can only be classed among the rare.

In closing this paper I should not forget to observe the influence of eye strain upon the disposition and the emotions, ably expressed by another writer in the following sentence: "The most frequent method in which eye strain acts disastrously upon the developing personality, is in making study and literary labor so irksome that the mind is slowly but irrevocably turned from intellectual pursuits and directed to physical activities for outlets of its energy." Irritability of temper, lack of self-control, unbounded impatience are frequent symptoms noted in these cases.

Upon this subject I am well aware that there is some skepticism, but remember the bias of prejudice is quite as harmful to scientific progress as the bias of enthusiasm. I simply maintain that a large number of cases of suffering humanity can be relieved of the gravest symptoms of nervous disorders by a simple and skillfully performed tenotomy of the recti muscles, resulting in the restoration of the equilibrium of strength of these delicate structures.

My conclusions are exactly those of Dr. Webster, viz: (1) No person should have a tenotomy performed *solely* because he is the subject of heterophoria. (2) But slight degrees should

be corrected where troublesome symptoms exist which may be due to the too great use of nervous force in co-ordinating the eyes. (3) Other means should be resorted to before trying tenotomy, but unnecessary delays should be avoided. (4) Tenotomies should be performed under cocaine. (5) In judiciously selected cases, where the operation is properly performed, the average results will be quite as satisfactory as the results of most other surgical operations.—*Northwestern Lancet.*

NEWS.

AN OPHTHALMOLOGICAL society has been organized in Kansas City. Those interested in the formation of such a body recently met at the office of Dr. J. H. Thompson and perfected the arrangements necessary. It is to be known as the Kansas City Ophthalmological Society. The officers are: President, Dr. B. E. Fryer; Secretary, Dr. J. H. Thompson. Meetings will be held every second month, time and place to be announced by the officers. The charter members are: Drs. B. E. Fryer, J. H. Thompson, W. C. Tyree, F. B. Tiffany, J. W. Parker and Leroy Dibble, of Kansas City; J. E. Minney, of Topeka, and Barton Pitts of St. Joseph. It is unfortunate that a rule has been established excluding from membership all physicians who do not practise ophthalmology (and otology) exclusively. There are a number of men in the city who have a very considerable knowledge of diseases of the eye, who would be an honor to the society if enrolled among its members. Besides, ophthalmoscopy is becoming so important an element in differential diagnosis that men in general medicine must soon know the eye about as thoroughly as the "specialist," in order to keep abreast of the advances in clinical medicine. Other ophthalmological societies have members who are not specialists—thus Hughlings Jackson is president of the Ophthalmological Society of the United Kingdom; while he is eminent in neurology, he is but a plain, "common doctor"—physician to the London Hospital, yet his recent presidential address, "Ophthalmology and General Medicine," is one of the finest pieces of composition in modern literature.

IN THE election of Dr. B. E. Fryer as presiding officer of the society, the members obtained an efficient officer, but at the

same time they performed an act which will do more toward securing recognition of the society both at home and abroad than any other one thing which could have been done. It was an admirable stroke of policy, though perhaps an unconscious one, while at the same time it conveyed the deserved and intended honor. By continuous association through a very long period of years with the most prominent ophthalmologists of America, and indeed of the world, the present president of the society has become more widely known, perhaps, than any man in the West. And besides, his long connection with the United States army has created a feeling of brotherly interest which extends through the land. For the army surgeon is a peculiar one—peculiar in many respects; he is, first of all, a highly educated man—he must be, in order to secure his position; then he is a polished gentlemen—his leisure, his surroundings, his associates necessitate it; he is friendly with his brother-surgeons—he learns to know them, to respect them, and in many instances to love them; he has a feeling of kinship for them all; and, above all, he is jealous of the reputation and honor of every one of his associates; to speak ill of one army surgeon is to defame all, provided the man in question be in good repute. With, therefore, all of these circumstances in his favor, widely known, popular everywhere and respected by all, the Kansas City Ophthalmological Society may well feel proud of its first president.—*Kansas City Medical Index.*

CORRESPONDENCE.

The Ophthalmic Review begins its new volume with an American editor, Dr. Edward Jackson, of Philadelphia, who succeeds Dr. James Anderson, of London. It will hereafter contain original articles from American as well as English ophthalmic surgeons, with notices of all ophthalmological papers published here or abroad, and full reviews of the more important of them.